NASA'S EARTH SCIENCE ENTERPRISE

EARTH PROBES

DATA INFORMATION SYSTEM

EOS

EARTH OBSERVING SYSTEM

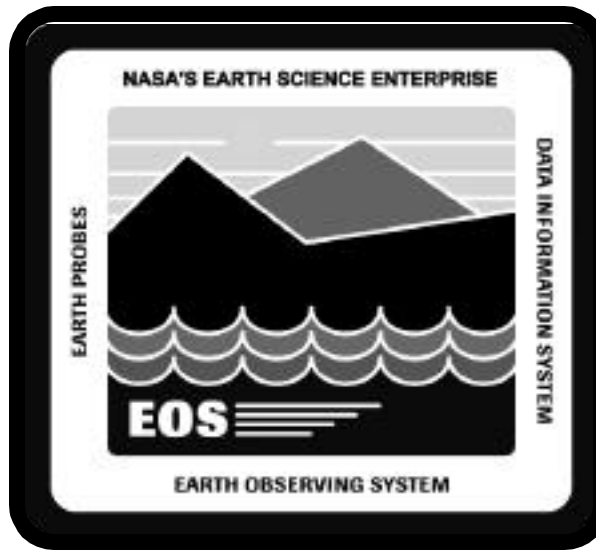# Release 5B - LaRC
Site Readiness Assessment (SRA)

07 September 2000

Raytheon

Agenda
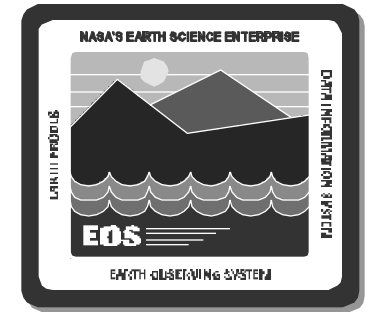
- **Introduction**   **Ravi Nirgudkar**
- **PCA Results for LaRC**   **Wanda Brown**
- **LaRC 5B Transition Results**   **Gerald LeMay**
- **Summary/Actions**   **Ravi Nirgudkar**

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EOS
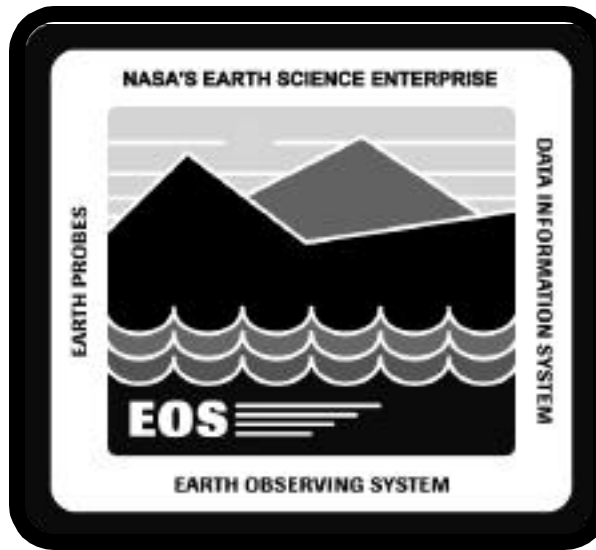
EARTH OBSERVING SYSTEM

Introduction

Ravi Nirgudkar

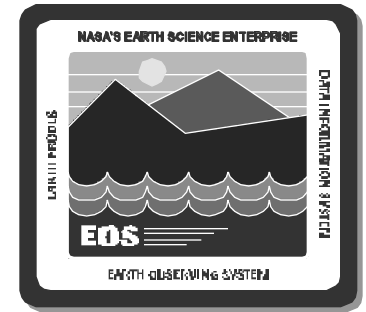**Raytheon**

Introduction

- **Review new capabilities added since PSR**
  - **None to report**

- **Review updated Development status since PSR**

  - **None to report**

- **Review updated Test Engineering status since PSR**

  - **None to report**

- **Review CM PCA results**

- **Review LaRC test results and transition status**

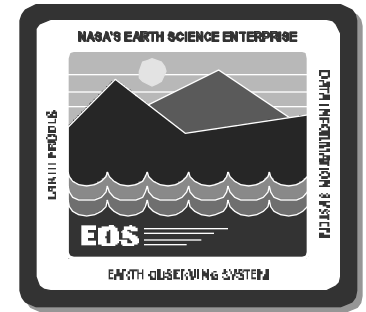**Raytheon**

LaRC
Physical Configuration Audit
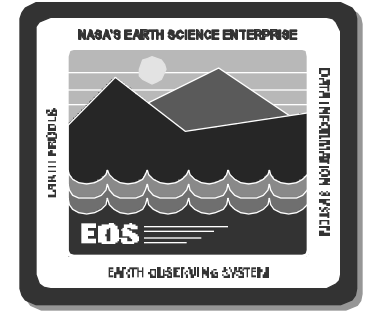
Wanda Jones Brown and Steve Haupt

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Agenda

- **Purpose of the PCA**
- **PCA Activities**
- **Documentation of PCA Findings**
- **Findings Classification**
- **PCA Process Summary**
- **LaRC**
  - **PCA Findings**
  - **PCA Work-off Plan**
- **Areas for improvement and process improvement actions**
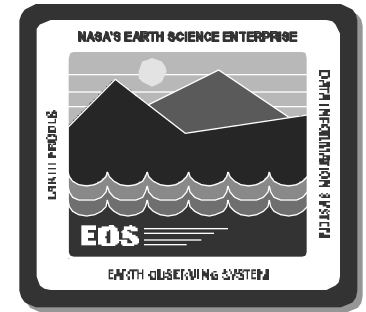- **Conclusion**

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Purpose

Compare the "as built" configuration to the "as approved baseline" configuration to verify the integrity of the system prior to transition to operations.

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PCA Activities

- **PCAs - Transition Modes (TS1, TS2)**

  - **COTS Software - mode independent**

  - **O/S Patches - mode independent**

  - **Custom Code - (TS1 and TS2 only)**
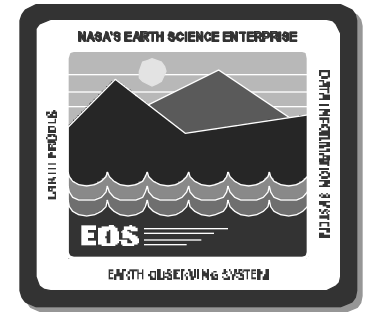
  - **Configuration Parameters - mode independent**

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Documentation of PCA Findings

- **Critical and Non-Critical products**

- **PCA NCR classification recognized by the following distinction:**

  - **Class   Severity   Definition**

  - **2   Medium   Critical product. Finding will be forwarded to a technical cognizant (either a system administrator, development engineer, or site personnel) for problem resolution. If it is determined that the finding requires further action, then the affected site will be promptly notified**

  - **3   Low   Non-critical product. Correction recommended to assure continued level of support**
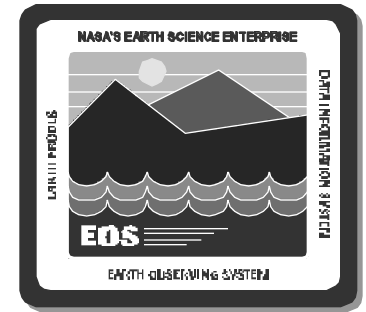
Findings Classification
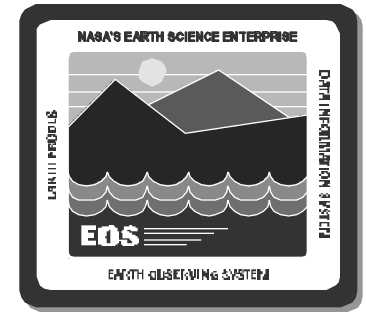
PCA NCR Severity:

- **COTS SW Findings will be either Class 2 or 3 severity.**

- **All Custom Code Findings will be Class 2 or 3. Each executable must be the correct version and none can be missing. Severity 3 findings are for backup hosts (unused).**

- **O/S Patches can be either Class 2 or 3. Certain missing patches may not affect the system because of how the system is used.**
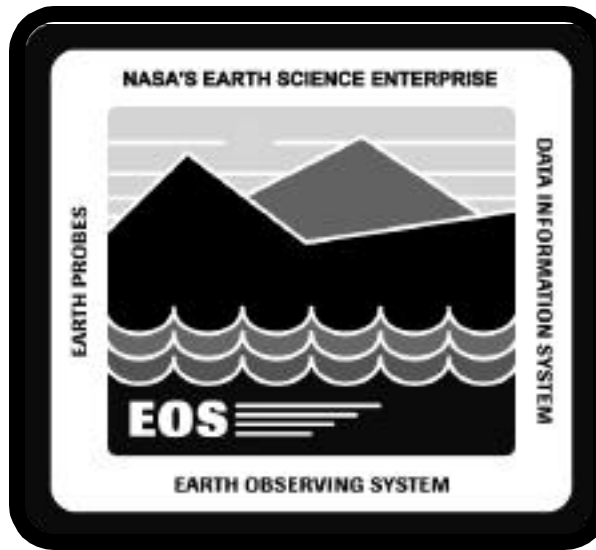
PCA Process Summary

- **Develop Audit Plan/Schedule**

- **Provide Release Baseline for audit locations & modes**

- **Interrogate hosts at sites and create discrepancy reports**

- **Post discrepancy reports on http://cmdm.east.hitc.com/baseline/, then click on interrogation button**

- **Review Technical Data Package (TDP) and audit plan with the audit team at the kick off meeting**

  - **CM, M&O, Development, CM DAAC Representatives**
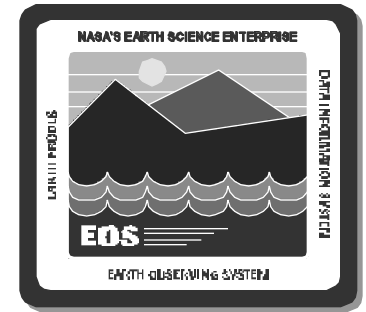
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PCA Process Summary (Cont.)

- **Conduct Audit**

- **Forward medium severity findings to the appropriate area for further evaluation**

- **Provide summary of all audit findings at the SRA**

- **Create PCA NCRs to document findings**

- **Verify closure of all PCA NCRs and audit team action items**

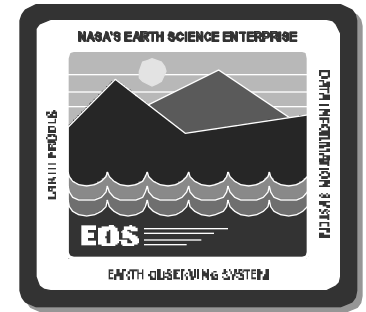- **Prepare final DID 506 report of the audit**

LaRC PCA Findings

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LaRC Findings

- **COTS SW**
  - **Critical and Non Critical COTS SW**
  - **Critical COTS SW**
    - **Approved but not installed**
    - **Not approved but installed**
    - **Installed incorrectly**

- **OS Patches**
  - **SUN, HP, SGI Summary**

- **Custom Code**
  - **Summary**

- **Configuration Parameters**
  - **Summary**

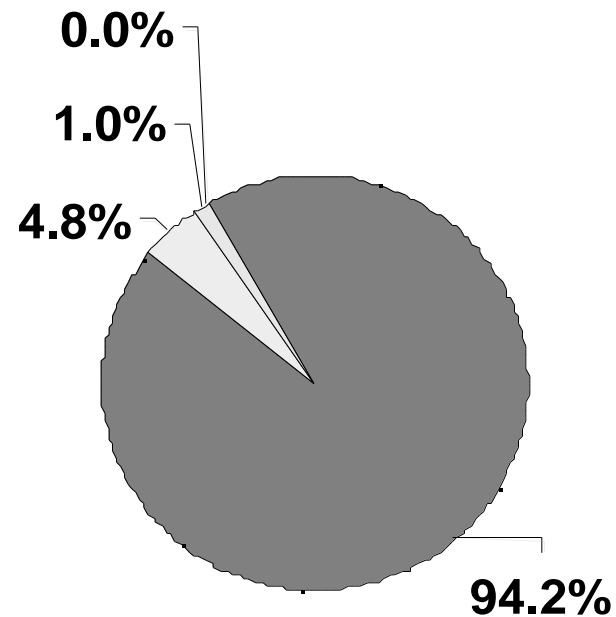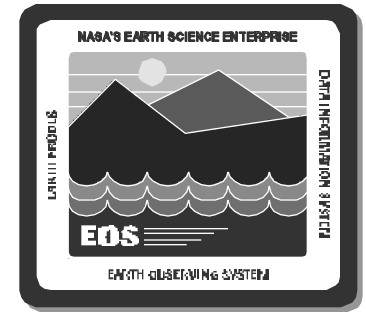**Raytheon**

LaRC PCA Results - COTS Software (Critical and Non Critical)

Investigation Completed on 9/5/00

19.0%

54.8%

10.1%

16.1%
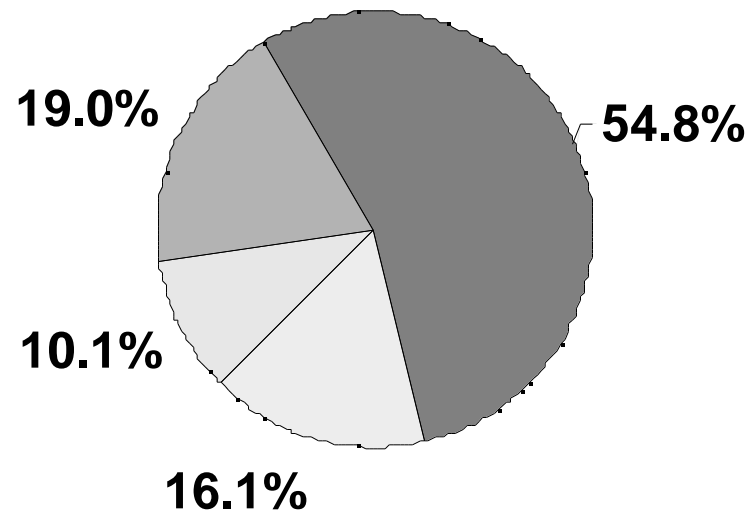
- ■ 54.8% Properly Installed
- 16.1% Approved but not installed
- 10.1% Not approved but installed
- ■ 19.0% Installed w/incorrect version/path

LaRC PCA Results - Critical COTS Software

Investigation Completed on 9/5/00

0.0%

1.0%

4.8%

94.2%

- 94.2% Properly Installed
- 4.8% Approved but not installed
- 1.0% Not approved but installed
- 0.0% Installed w/incorrect version/path

740-PP-512-001
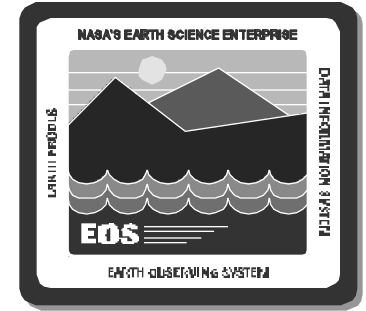
16

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LaRC PCA Results - Critical COTS SW Approved but not Installed
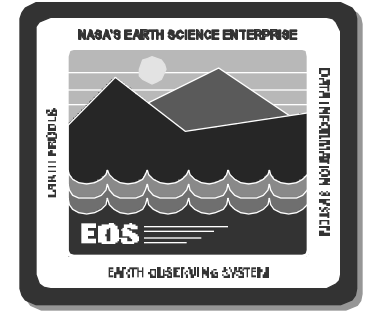
4.8% COTS SW

- **13 Host Issues**
    - 9 COTS products are missing
    - 4 host have the wrong versions

- **10 Baseline Issues**
    - 6 COTS products need to be added to the 'host' baseline
    - 4 COTS products need to be removed from the baseline

Resolution

NCR ECSed 28051 written for host issues.
CCR 00-0906 written for baseline issues.

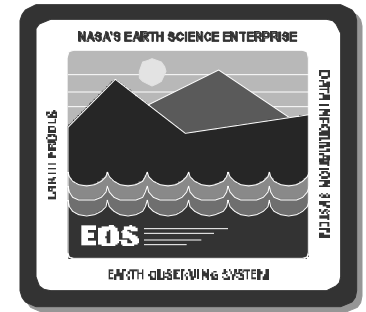# LaRC PCA Results - Critical COTS SW Not Approved but Installed

1.0% COTS SW

- **Host Issue**
  - FLEXlm should be removed from l0acg02 and l0acg05.

- **Baseline Issues**
  - AutoSys should be installed on l0ais01, l0pls01 and l0pls02.
  - BDS should be installed on l0icg01.
  - DCE Server should be installed on l0mss01.
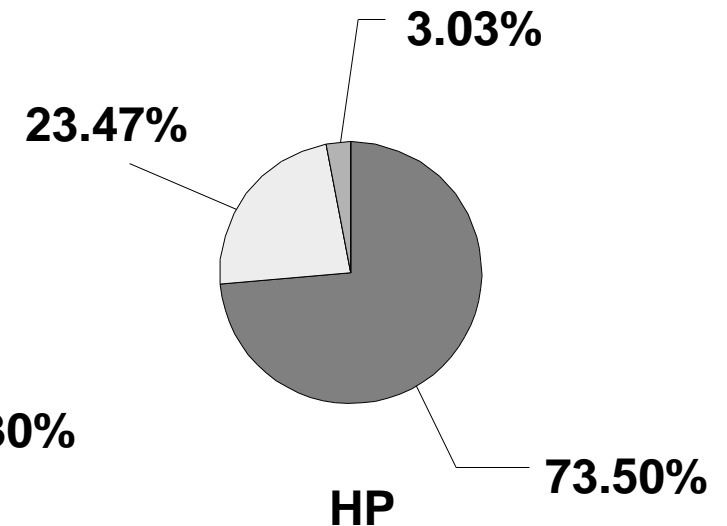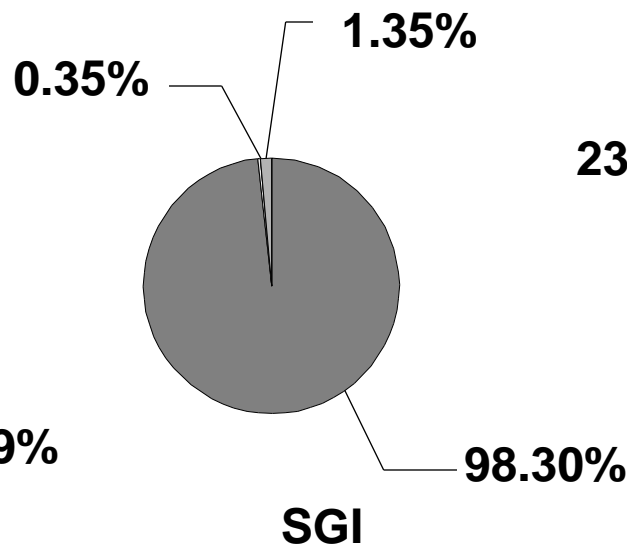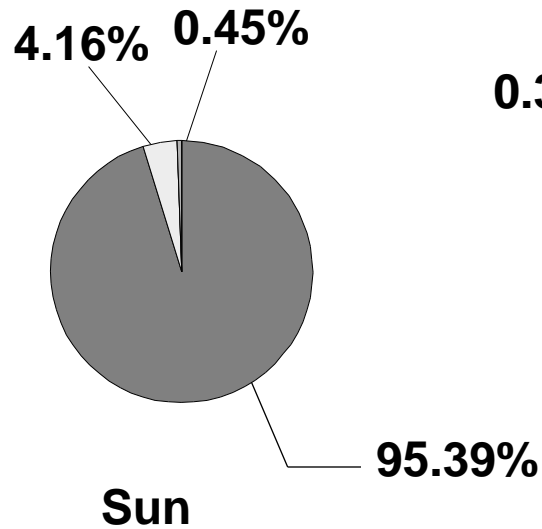 - Hippi S/W should be installed on l0acg02, l0acg05, l0drg01, l0drg03 and l0spg0x.

Resolution

- **NCR ECSed 28051 written for the host issue.**

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LaRC PCA Results - O/S Patches

Investigation Completed on 9/5/00

Sun

4.16% 0.45% 95.39%

SGI

0.35% 1.35% 98.30%

HP

23.47% 3.03% 73.50%

95.39%	Properly Installed
4.16%	Approved but not installed
0.45%	Not approved but installed

98.30%	Properly Installed
0.35%	Approved but not installed
1.35%	Not approved but installed

73.50%	Properly Installed
23.47%	Approved but not installed
3.03%	Not approved but installed

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O/S Patch Summary - SUN Platforms
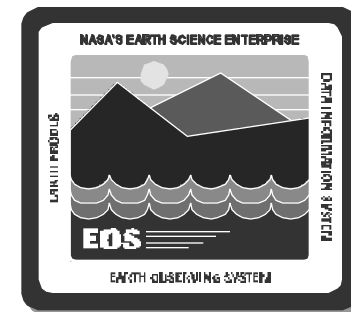
4.2% Approved but not installed:

Patch/Name	Impact	Status
105716-07	CDE Security patch	being investigated by an system administrator
106646-01	rpc Security patch (core)	

Hosts l0ais10 (22), l0dms04 (34) and l0dms05 (38) account for most of the missing patches.

Note: l0drs02 runs Solaris 2.6. There is no Solaris 2.6 O/S Patch baseline.
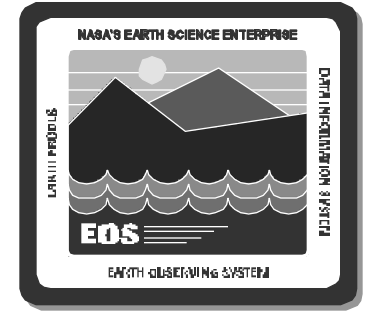
O/S Patch Summary - SUN Platforms (Cont.)

0.5% Not Approved but installed

106606-01 appears on 6 hosts. Being investigated by an System Administrator.

O/S Patch Summary - HP Platform

23.5% Approved but not installed:

All issues need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.

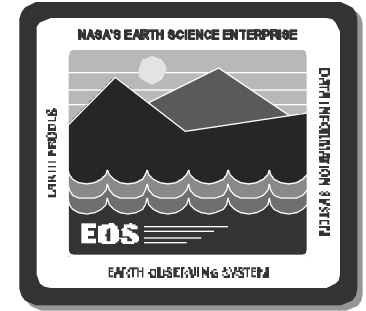**3.0% Not Approved but installed:**

All issues need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.
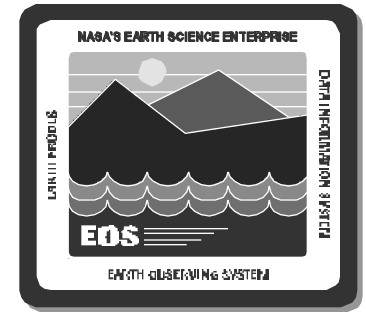
O/S Patch Summary - SGI Platform

0.4% Approved but not installed:

The 10 missing patches need to be resolved by a RTSC system administrator.

1.4% Not Approved but installed

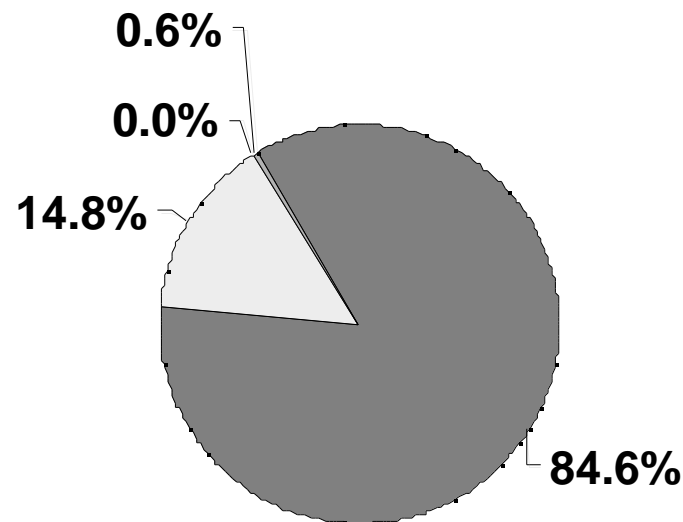**The 38 non-baseline patches need to be resolved by a RTSC system administrator.**

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LaRC PCA Results - Custom Code

Notes:

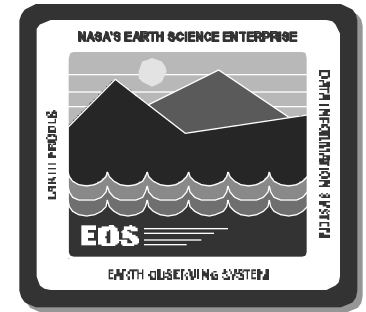- **Includes Backup Servers**
- **LaRC did not populate OPS mode**
- **Shown data is for TS1 and TS2 modes**

Investigation Completed on 9/7/00

0.6%

0.0%

14.8%

84.6%

- ■ 84.6% Properly Installed
- 14.8% Approved but not installed
- 0.0% Not approved but installed
- ■ 0.6% Installed w/incorrect version/path
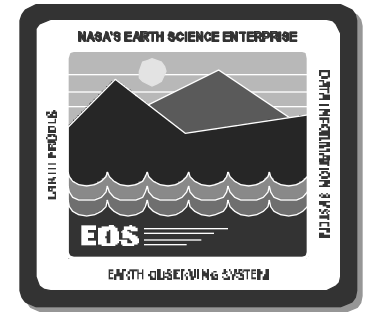
LaRC PCA Results - Custom Code Summary

18.5% Approved but not installed:

(64/100) executable are missing on backup hosts.

Host	Executable	CCR	Name
l0acg02	CopyDaemonTest	00-0659	5B.03
	EcDsStArchiveServer	00-0659	5B.03
l0msh03	Not populated		
l0spg0x	EcCsQueryRgy	00-0659	5B.03
	Loading Tool	00-0659	5B.03

LaRC PCA Results - Custom Code Summary (Cont.)

1.5% Installed w/incorrect version:

Host	Executable	CCR	Name
l0ins01/	sf_client and xims	00-0659	5B.03
l0ins02		00-0659	5B.03

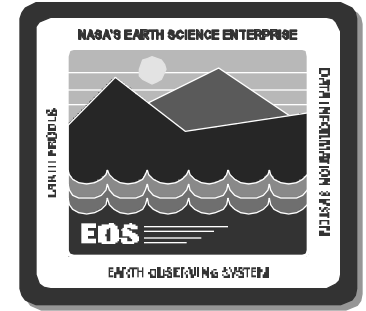# LaRC PCA Results - Configuration Parameters

**Investigation Completed on 9/5/00**

0.0%
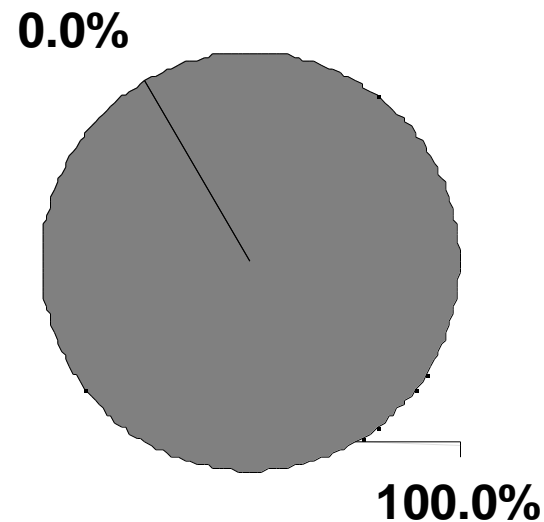
100.0%

■ 100.0% Correct Values

0.0% Incorrect Values

LaRC PCA Results - Configuration Parameters Summary

- The new audit process for UNIX configuration parameters compares the baseline to the as-builts. The baseline consists of Tech Docs 920-TDx-015 (Suns), 920-TDx-016 (SGIs), and 920-TDx-017 (HPs). The "as-builts" are located on server pete.hitc.com in the /CONFIG directory.

- UNIX configuration parameters define how the UNIX operation system functions. These parameter values can be modified to enable specific custom code executables to perform more efficiently. There are 50 Sun parameters for each host, 239 SGI parameters, and 80 HP parameters.

- The baseline was formulated by first reading all of the ECS hosts at   the DAACs, the VATC, and the PVC. By subsequently reading the vendor notes, it was then determined whether the read values were the "default, out-of-the-box" values. All read values were the default values. HTML tables were created and posted using the CCR/CCB process.

LaRC PCA Work-off Plan
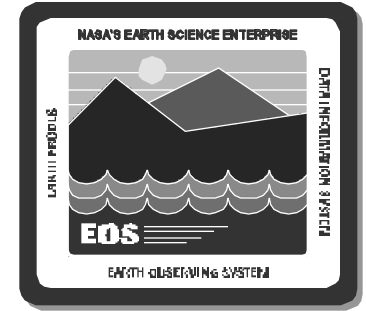
COTS SW:

- 23 findings will result in updates to baseline documentation and will be completed by 9/30/00.

- 114 findings will be reviewed by CM and M&O with the DAACs to prioritize and complete outstanding items.
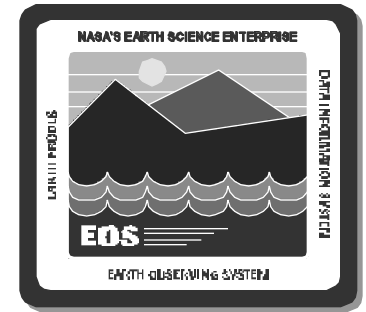
OS Patches:

- 37 Items must be assigned to System Administrator for priority resolution. (16 - Sun's, 7 - SGI's, 14 - HP's)

Custom Code:

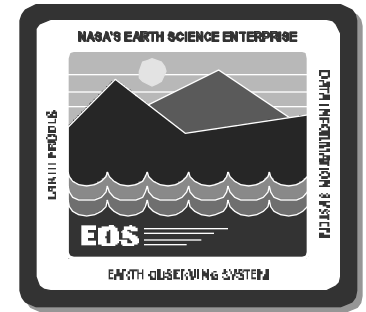- Write an NCR to document the findings.

Areas for Improvement
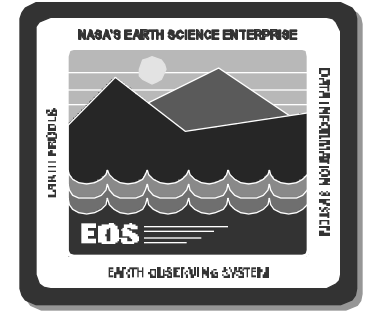
The PCA identified the following issues:

- Lack of a standard feedback loop from the DAACs when the need arises to deviate from the install instructions.

- Problems that have been identified in previous audits have not been resolved.

- Need to improve Baseline management process, updates are not captured accurately in the XRP database.

- PCA's are not conducted on a routine basis to resolve discrepancies as they occur.

- CMO needs to improve it's direct process with RTSC to address OS Patches findings.

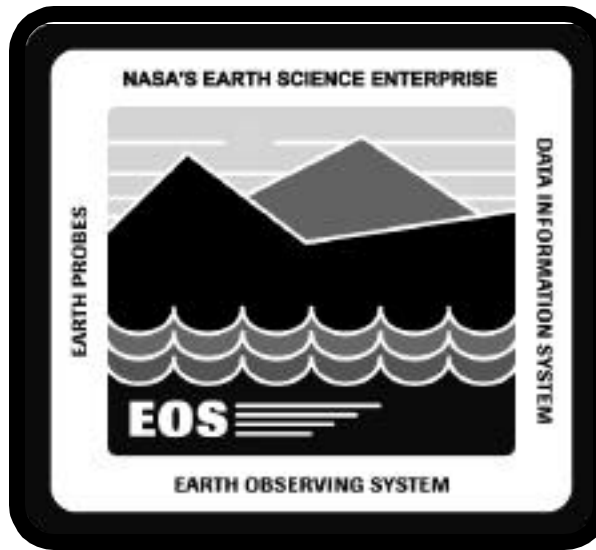**Raytheon**

Process Improvement Actions

- Implement a standard policy for the DAAC's to use the TT reporting process to communicate deviations from the install instructions. Status - completed

- Action team (CM and M&O) to work with DAACs (as appropriate) to review and resolve outstanding PCA NCR's. Status - in progress

- Review existing processes within baseline management. Recent change in CMO separates the audit and baseline management team. Status - in progress

- Audits will be conducted on a weekly basis to identify new discrepancies from the baseline and will be addressed immediately. Status - in progress

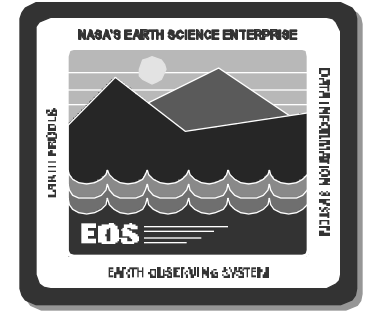**Raytheon**

LaRC PCA Conclusion

- Items needing resolution have been identified and will be addressed via the work-off plans

- The results of the PCA demonstrates the integrity of the configuration of the system

LaRC 5B Transition Status
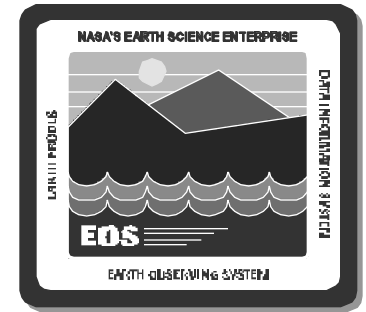
Gerald LeMay

Raytheon

LaRC ECS 5B Transition Plan

5B.03 Transition Process

- **Install in TS2 & Checkout (08/07 - 08/18)**

    - **Verifies install instructions and basic functionality**

    - **Review any issues and resolve**

    - **Schedule TS1 install and checkout**

- **Install in TS1 and Checkout (08/21 - 09/11)**

    - **Refine install procedures and methods**

    - **More extensive checkout of software functionality**

    - **Run system regression tests using MISR PGE chain (08/28 - 09/11)**

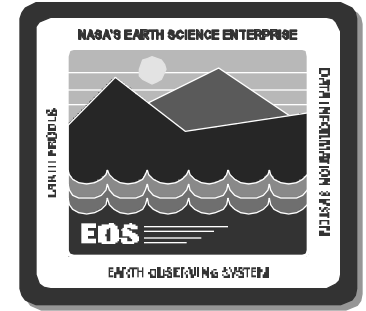   - **Review test results and schedule OPS install (09/11)**

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LaRC ECS 5B Transition Planning

5B.03 OPS Install Process

- **Review with Local CCB**

  - **Review potential risks of install into OPS**

  - **Review potential risks of not installing into OPS**

  - **Review regression test results from TS1**

  - **Review fall back procedures should they be needed**
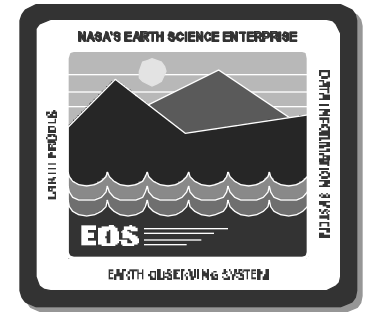
  - **Schedule install (09/13 - 09/14)**

LaRC ECS Transition Status
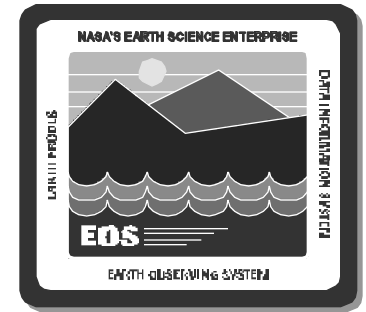
TS1 Regression Testing

- **Currently underway**

- **No show stoppers found to date**

- **Replication server configured and tested for TS2 & TS1**

- **Still on schedule for 09/13 OPS install**

LaRC ECS Post Transition Issues

- **Post Transition Issues/comments**

  – **New functionality not verified**

  – **Still need to test and install 5B.05 in preparation for 55 transition**

Summary

No Show stoppers found

OPS install will begin 09/13 as originally scheduled

Raytheon

Summary/Actions